REMARKS

Claims 8 and 10 currently are pending. For reasons advanced below, Applicants respectfully request reconsideration and withdrawal of the objections and the rejection of the claims.

On page 2 of the Office Action, the Examiner objected to the drawings because the requisite marked-up drawing are missing. By way of the present response, Applicants submit herewith both replacement drawing sheets and annotated drawing sheets, as required on page 2 of the Office Action. It is to be noted, however, that Rule 1.121(d)(1)-(2) (reproduced below) does not require Applicant to file annotated drawing sheets unless required by the Examiner:

> (1) A marked-up copy of any amended drawing figure, including annotations indicating the changes made, may be included. The marked-up copy must be clearly labeled as "Annotated Sheet" and must be presented in the amendment or remarks section that explains the change to the drawings.
>
> (2) A marked-up copy of any amended drawing figure, including annotations indicating the changes made, must be provided when required by the examiner.

However, in view of the most recent Office Action requirement, annotated sheets have been provided along with replacement sheets to fully comply with Rule 1.121(d)(2). Applicants respectfully request the Examiner to approve the drawing changes.

Also on page 2 of the Office Action, the Examiner objected to Applicants' Amendment filed on November 18, 2005, for allegedly introducing new matter to the disclosure. In particular, the Examiner asserts that all the changes made to pages 25-28 introduce new matter. However, Applicants' response of November 18, 2005, provided a detailed explanation of the changes to pages 25-28, and why they are supported by the original disclosure. Additionally, the amendments to pages 25-28 delete some examples from the description in accordance with present limitations in the claims. Applicants respectfully submit that those of ordinary skill in the art would have understood from reading the original disclosure that the amended subject matter in inherent to the original disclosure and that Applicants were in full possession of the disclosed invention.

For at least these reasons, Applicants respectfully request the Examiner to reconsider and withdraw the objection, or to at least provide reasons why the amended subject matter introduces new matter, especially in light of the detailed explanation provided.

Turning now to the rejections, claims 8 and 10 are rejected under 35 U.S.C. § 103(a) as allegedly being obvious over the previously applied Berkey patent (U.S. Patent No. 5,917,109) in view of the Baumgart patent (U.S. Patent No. 4,820,322). With respect to claims 8 and 9, the Examiner asserts (with reference to Berkey's Figure 9, column 8, lines 28-31 and column 9, lines 16-17), "as to the feed rates: the pipe feed rate is about three times that of the rod feed rate ... Other portions of Berkey also support the finding that the tube feed rate is greater than the rod feed rate. Since the speed of the rod is equal to the speed of the tube, and since the tube has a greater volume, the volume feed rate is greater as required by the claim. See also page 7 of Applicant's Nov 18, 2006 which discloses how to calculate the feed rates" (see, page 3 of the Action). It appears from these statements that the Examiner regards the formulas shown in page 7 of the previous response as formulas for calculating the feed rates. However, as pointed out on page 7, lines 11-20, these formulas calculate the *ratio of the cross section area* of the glass pipe to that of the glass rod.

As pointed out in Applicants' response of November 18, 2005, in order to show the magnitude relationship between the feed rate of the glass pipe and the feed rate of the glass rod, the magnitude relationship between the ratio of the cross section area of the pre-unified glass pipe to that of the pre-unified glass rod, and the ratio cross section area of the unified glass pipe to the ratio cross section area of the unified glass rod, is considered. The formulas:

(cross section area of the pre-unified glass rod) / (cross section area of the pre-unified glass pipe) = $(\pi * d^2/4)/(\pi * D0^2/4 - \pi * d0^2/4) = d2/D0^2 - d0^2$ ...(1)

(cross section area of the unified glass rod) / (cross section area of the unified glass pipe) = $(\pi * d1^2/4)/(\pi * D1^2/4 - \pi * d1^2/4) = d1^2/D1^2 - d1^2$ ...(2)

where D0, d0, d, D1 and d1 are defined in Figure 2, and π denotes the circle ratio, can show which is faster: the feed rate of the glass pipe or that of the glass rod. However, these formulas cannot calculate the feed rates.

Further, "feed rate" in the present invention does not refers to "volume feed rate." Rather, "feed rate" refers to "speed," which the Examiner indicates. This is clearly shown, for example, in the phrase, "feed rate of the pipe into furnace (mm/min)" (emphasis added) in Figures 4 and 5.

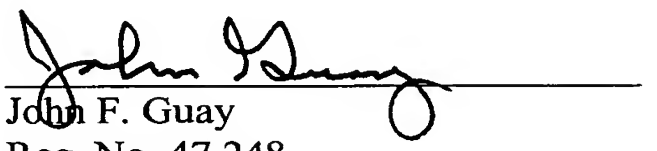
In the present invention, therefore, the feed rate of the glass pipe is set faster than that of the glass rod. To the contrary, Berkey discloses that the speed of a rod is *equal to that of a tube*. Hence, Berkey does not teach or suggest the features of "wherein each of the glass

pipe and the glass rod has a constant feed rate, and the feed rate of the glass pipe is set faster than that of the glass rod," as recited in Applicants' independent claim 8.

The Baumgart patent likewise fails to disclose or even remotely suggest that the glass pipe and the glass rod has a constant feed rate and that the feed rate of the glass pipe is set faster than that of the glass rod, as recited in amended independent claim 8. Accordingly, it is respectfully submitted that neither Berkey nor Baumgart teach each and every feature of claim 8. Consequently, even if one were to consider combining these documents, any such combination would not have taught or suggested the subject matter set forth in claim 8. As such, it is respectfully submitted that the Section 103 rejection of claims 8, and also claim 10 depending therefrom, should be withdrawn.

Based on the forgoing, Applicants submit that the present application is in condition for allowance. Prompt notification of the same is earnestly sought. If the Examiner believes a telephonic conference with would be helpful in expediting any unresolved issues, he is invited to contact the undersigned at the number provided below.

Respectfully submitted,



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AMENDMENTS TO THE DRAWING FIGURES:

In response to the objection to the drawing, Applicants attached two replacement and two annotated drawing sheets showing changes made to Figures 4 and 5 as originally filed. The replacement sheets, which respectively include Figs. 4 and 5, replace the original sheets including Figs. 4 and 5. The changes to Fig. 4 are in the top column, wherein "Work Ex. 6," "Work Ex. 7," and "Work Ex. 8" have been respectively changed to "Comp. Ex. 2," "Comp. Ex. 3," and "Comp. Ex. 4." The changes to Fig. 5 are in the top column, wherein "Work Ex. 9," "Work Ex. 10," "Work Ex. 11," and "Work Ex. 13" have been respectively changed to "Comp. Ex. 5," "Comp. Ex. 6," "Comp. Ex. 7" and "Comp Ex. 8."

Attachments: Two (2) Replacement Sheets
Two (2) Annotated Sheets

FIG. 4

	variable	Conv. Ex. 1	Work. Ex. 1	Work. Ex. 2	Work. Ex. 3	Work. Ex. 4	Work. Ex. 5	Comp. Ex. 1	Conv. Ex. 2	~~Work. Ex. 6~~ Comp Ex. 2	~~Work. Ex. 7~~ Comp. Ex3	~~Work. Ex. 8~~ Comp. Ex. 4
pipe outer diameter	D0	67.0	48.0	67.0	67.0	67.0	67.0	67.0	170.0	170.0	166.0	170.0
pipe inner diameter	d0	23.0	24.0	23.0	23.0	23.0	23.0	23.0	55.0	55.0	66.0	55.0
rod diameter	d	19.0	13.0	19.0	19.0	19.0	19.0	19.0	45.0	45.0	41.6	45.0
pipe inner/outer diameter ratio	d0/D0	0.34	0.50	0.34	0.34	0.34	0.34	0.34	0.32	0.32	0.40	0.32
pipe outer diameter	D1	65.7	41.0	51.2	60.3	58.2	48.4	44.0	167.0	157.5	128.2	98.6
pipe inner diameter (=rod diameter)	d1	19.0	12.2	14.8	17.4	16.8	14.0	12.7	45.0	42.4	33.8	26.6
pipe inner/outer diameter ratio	d1/D1	0.29	0.30	0.29	0.29	0.29	0.29	0.29	0.27	0.27	0.26	0.27
pipe outer diameter	D2	44.0	30.0	44.0	44.0	44.0	44.0	44.0	60.0	60.0	60.0	60.0
pipe inner diameter (=rod diameter)	d2	12.7	9.0	12.7	12.7	12.7	12.7	12.7	16.2	16.2	15.8	16.2
pipe inner/outer diameter ratio	d2/D2	0.29	0.30	0.29	0.29	0.29	0.29	0.29	0.27	0.27	0.26	0.27
ratio of pipe inner/outer diameter ratios	$\frac{(d0/D0)}{(d1/D1)}$	1.19	1.68	1.19	1.19	1.19	1.19	1.19	1.20	1.20	1.51	1.20
initial stretching position to integrated position	L1	0	38	43	18	22	89	210	0	66	140	377
integrated position to final stretching position	L2	85	79	88	92	89	22	0	400	344	245	33
ratio of distance to integrated position over total distance	L1/(L1+L2)	0.00	0.32	0.33	0.16	0.20	0.80	1.00	0.00	0.17	0.36	0.92
pipe pressure reduction level (kPa)		100.0	13.3	13.3	53.3	26.6	6.7	3.3	100.0	40.0	13.3	3.3
heating temperature of stretching furnace (℃)		2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250
feed rate of pipe into furnace (mm/min)		10.0	8.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
draw rate of stretched preform (mm/min)		22.3	16.9	22.3	22.3	22.3	22.3	22.3	77.5	77.5	69.3	77.5
bubbles in preform (per 100mm of preform)		0	0	0	0	0	2	124	0	1	1	12
mode field eccentricity amount of optical fiber (μm)		1.41	0.20	0.19	0.22	0.20	0.18	0.19	2.22	0.33	0.28	0.29

ANNOTATED SHEET

FIG. 5

	variable	Conv. Ex. 1	~~Work. Ex. 9~~ Comp. Ex. 5	~~Work. Ex. 10~~ Comp. Ex. 6	~~Work. Ex. 11~~ Comp. Ex. 7	Work. Ex. 12	Conv. Ex. 2	~~Work. Ex. 13~~ Comp. Ex. 8	Work. Ex. 14
pipe outer diameter	D0	67.0	67.0	67.0	67.0	67.0	170.0	170.0	170.0
pipe inner diameter	d0	23.0	23.0	23.0	23.0	23.0	55.0	55.0	55.0
rod diameter	d	19.0	6.0	10.8	13.3	21.0	45.0	25.0	50.0
pipe inner/outer diameter ratio	d0/D0	0.34	0.34	0.34	0.34	0.34	0.32	0.32	0.32
pipe outer diameter	D1	65.7	54.0	55.2	56.9	59.2	167.0	128.0	149.5
pipe inner diameter (=rod diameter)	d1	19.0	5.1	9.3	11.8	18.7	45.0	19.7	44.4
pipe inner/outer diameter ratio	d1/D1	0.29	0.09	0.17	0.21	0.32	0.27	0.15	0.30
pipe outer diameter	D2	44.0	44.0	44.0	44.0	44.0	60.0	60.0	60.0
pipe inner diameter (=rod diameter)	d2	12.7	4.2	7.4	9.1	13.9	16.2	9.2	17.8
pipe inner/outer diameter ratio	d2/D2	0.29	0.09	0.17	0.21	0.32	0.27	0.15	0.30
ratio of pipe inner/outer diameter ratios	$\frac{(d0/D0)}{(d1/D1)}$	1.19	3.62	2.03	1.66	1.08	1.20	2.11	1.09
initial stretching position to integrated position	L1	0	77	62	54	32	0	140	94
integrated position to final stretching position	L2	85	138	121	108	125	400	270	271
ratio of distance to integrated position over total distance	L1/(L1+L2)	0.00	0.36	0.34	0.33	0.20	0.00	0.34	0.26
pipe pressure reduction level (kPa)		100.0	13.3	13.3	13.3	13.3	100.0	13.3	13.3
heating temperature of stretching furnace (℃)		2250	2250	2250	2250	2250	2250	2250	2250
feed rate of pipe into furnace (mm/min)		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
draw rate of stretched preform (mm/min)		22.3	20.6	21.1	21.4	22.7	77.5	73.6	78.8
bubbles in preform (per 100mm of preform)		0	1	1	0	1	0	0	1
mode field eccentricity amount of optical fiber (μm)		1.41	0.49	0.44	0.21	0.19	2.22	0.42	0.28

ANNOTATED SHEET